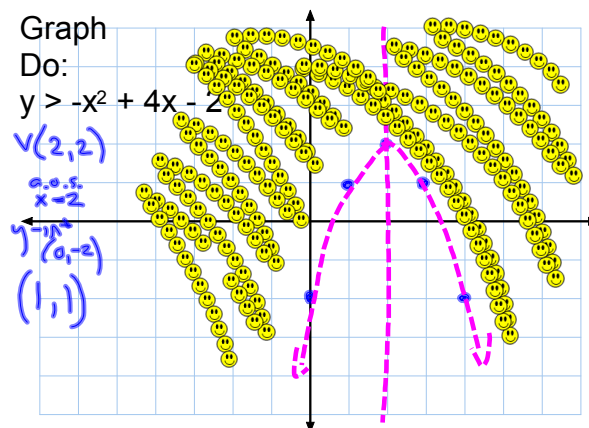
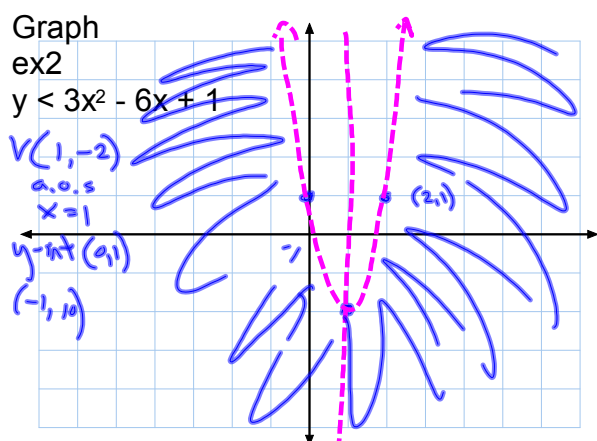
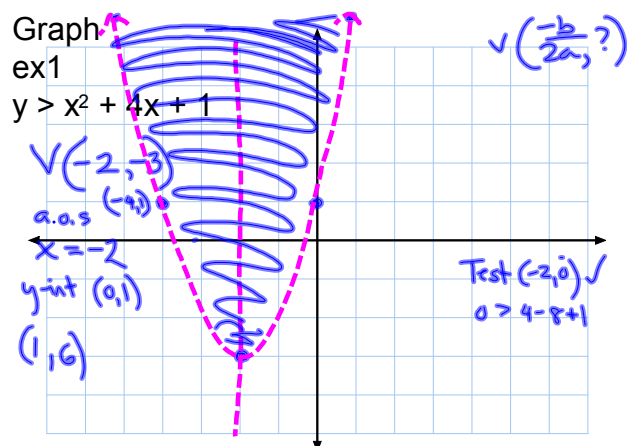


6-7 Quadratic Inequalities



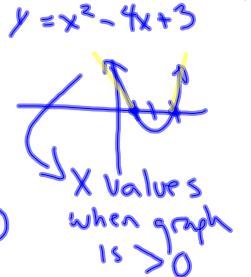
Solving Quadratic Inequalities *Graph on calc*

Ex 1

$$x^2 - 4x + 3 > 0$$

$$(x-1)(x-3) > 0$$

$$\{x \mid x < 1 \text{ or } x > 3\}$$



Ex 2

$$0 \leq -4x^2 - 17x - 15$$

$$0 \leq -(4x^2 + 17x + 15)$$

$$0 \geq 4x^2 + 17x + 15$$

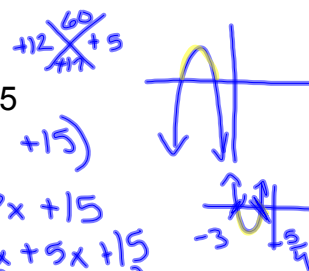
$$4x^2 + 12x + 5x + 15$$

$$4x(x+3) + 5(x+3)$$

$$0 \geq (4x+5)(x+3)$$

$$x = -\frac{5}{4} \quad x = -3$$

$$\{x \mid -3 \leq x \leq -\frac{5}{4}\}$$



Ex 3

$$x^2 + 3x + 9 > 0$$

all \mathbb{R} numbers

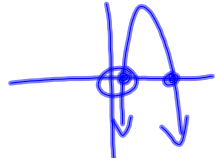
Ex 4

$$x^2 + 3x + 9 < 0$$

 \emptyset 

ex 5:

$$-2x^2 + 12x - 9 < 0$$



$$\frac{-12 \pm 6\sqrt{2}}{-4}$$

$$\frac{-6 \pm 3\sqrt{2}}{-2}$$

$$\left\{ x \mid x < \frac{6-3\sqrt{2}}{2} \text{ OR } x > \frac{6+3\sqrt{2}}{2} \right\}$$

$$\frac{-6+3\sqrt{2}}{-2} = \frac{6-3\sqrt{2}}{2} \approx .57$$

$$\frac{-6-3\sqrt{2}}{-2} = \frac{6+3\sqrt{2}}{2}$$

In General:

p333-334

15, 17, 19, 31-41 odd, 42

(when solving, use a calc. to graph)